8th and Plutus Streets Pottery Site Sampling and Quality Assurance Plan Chester, Hancock County, WV

Contract 68 S3-00-01
TDD SW3-02-07-0016
PAN 001262 0278 01SI

August 2002

DRAFT

REGION III

START

REMEDIAL TECHNICAL ASSESSMENT & RESPONSE TEAM

Prepared for James Hargett Site Assessment Manager
U S Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103

ecology and environment, inc
International Specialists in the Environment

131 Peninsula Street Suite B
Wheeling West Virginia 26003
Tel (304)231 1176 Fax (304)231 0920

August 16 2002

Mr James Hargett (3HS34)
Site Assessment Manager
United States Environmental Protection Agency
1650 Arch Street
Philadelphia Pennsylvania 19103 2029

RE Contract No 68 S3-00 01 Technical Direction Document No SW3-02 07-0016
8th and Plutus Streets Pottery Site

Dear Mr Hargett

Enclosed please find the draft version of the site specific sampling and quality assurance plan (SQAP) for the 8th and Plutus Streets Pottery Site located in Chester Hancock County WV

If you have any questions or comments please contact me at (304) 231 1176

Sincerely

William Huggins Jr
START Project Manager

Enclosure

cc Drew Wojtanik START Program Manager E & E Wheeling WV (without enclosures)
Gene Nance START Project Leader E & E Charleston WV
TDD file E & E Wheeling WV

CERCLIS No WVN000305784

SAMPLING AND QUALITY ASSURANCE PLAN

8th and Plutus Streets Pottery Site
Chester Hancock County WV

TDD SW3-02-07 0016

Prepared By

William Huggins Jr
Ecology and Environment Inc
Wheeling West Virginia

Contract No 68 S3-00-01

August 16 2002

Key Project Personnel

U S EPA Site Assessment Manager	James Hargett U S EPA Philadelphia PA
START Program Manager	Drew Wojtanik, E & E Wheeling WV
START Project Leader/QA Officer	Gene Nance E & E Charleston WV
START Project Manager	William Huggins Jr E & E Wheeling WV
START Project Chemist	Gene Nance E & E Charleston WV

APPROVALS			
TITLE	NAME	SIGNATURE	DATE
EPA Site Assessment Manager	James Hargett		
START Project Leader/QA Officer	Gene Nance		
START Project Manager	William Huggins Jr		8/15/02

LIST OF ACRONYMS

Acronym	Definition
BGS	below ground surface
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
cfs	Cubic feet per second
CLP	Contract Laboratory Program
CLPAS	Contract Laboratory Program Analytical Service
COC	chain-of-custody
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
C	Degrees Celsius
DQOs	Data quality objectives
DW	Domestic Well
Dup	Duplicate
E & E	Ecology and Environment Inc
EPA	Environmental Protection Agency
ESAT	Environmental Services Assistance Team
ESI	Expanded Site Inspection
GPS	Global Positioning System
HASP	Health and Safety Plan
HUC	Hydrologic Units
IDW	Investigation derived waste
ICP	Inductively Coupled Plasma
ISA	Integrated Site Assessment
mg/kg	milligrams per kilogram
MS/MSD	matrix spike/matrix spike duplicate
MW	Monitoring Well
NPL	National Priorities List
oz	ounce
PA	Preliminary Assessment
Pest/PCBs	chlorinated pesticides/polychlorinated biphenyls
PM	Project Manager

CERCLIS No WVN000305784

LIST OF ACRONYMS

Acronym	Definition
PPE	Probable Point of Entry
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QMP	Quality Management Procedure
SB	Subsurface soil
SD	Sediment
SI	Site Inspection
SQAP	Sampling and Quality Assurance Plan
SOPs	Standard Operating Procedures
SQL	Sample Quantitation Limit
SS	Soil Sample
START	Superfund Technical Assessment and Response Team
SVOCs	Semivolatile Organic Compounds
TAL	Target Analyte List
TCL	Target Compound List
TB	Trip Blank
TBD	To be determined
TDD	Technical Direction Document
TDL	Target Distance Limit
TM	Task Monitor
USFWS	United States Fish and Wildlife Service
USGS	United Stated Geological Survey
VOCs	Volatile Organic Compounds
WS	Waste Sample
WVDEP	West Virginia Division of Environmental Protection

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

CERCLIS No WVN000305784

LIST OF TABLES

LIST OF FIGURES

1 INTRODUCTION

The United States Environmental Protection Agency (EPA) has tasked Ecology and Environment Inc (E & E) to provide technical support for the completion of a site inspection (SI) at the 8th and Plutus Streets Pottery Site located in Chester Hancock County WV E & E will complete the SI activities under Technical Direction Document (TDD) No SW3-02-07-0016 issued under EPA Region 3 Superfund Technical Assessment and Response Team (START) Contract No 68 S3 00-01 The primary goals of the SI activities are to

Collect and analyze samples to characterize the potential sources discussed in Section 2 6

Determine whether off site migration of contaminants has occurred

Provide the EPA with adequate information to determine whether the site is eligible for placement on the National Priorities List

Document any threat or potential threat to public health or the environment posed by the site and

Prepare a preliminary Hazard Ranking System (HRS) score for the site

The SI will include sampling at potential contaminant source and target areas This document is a combined Site Sampling Plan (SSP) and site specific Quality Assurance Project Plan (QAPP) that outlines the technical and analytical approaches E & E will employ during SI fieldwork The combined SSP/QAPP hereafter called the Sampling and Quality Assurance Plan (SQAP) includes a brief site summary details project objectives provides sampling and analytical procedures and specifies QA requirements that will be used to obtain valid representative field samples and measurements The SQAP is intended to be used in conjunction with information presented in E & E s *Quality Assurance Project Plan (QAPP) for US EPA Region 3 Superfund Technical Assessment and Response Team (START)* (E & E 2000) and E & E s corporate Quality Management Procedure (QMP) Copies of E & E s QAPP and QMP are available in E & E s office located at 131 Peninsula Street Suite B Wheeling West Virginia 26003 Standards contained in the SQAP QMP and QAPP will be used to ensure the validity of data generated by E & E for this project

2 SITE BACKGROUND

2 1 SITE LOCATION

Site Name	8th and Plutus Streets Pottery
CERCLIS No	WVN000305784
Location	8th and Phoenix Avenue Chester Hancock County WV
Latitude	N 40 37 3 76
Longitude	W 80 33 30 73
Legal Description	Chester Corporation District, Map CH3R parcel 43 9 52 AC
Congressional District	1
Site Owner(s)	Rock Spring Enterprises Inc P O Box 95 Chester Hancock WV 26034 330 386 3813 Hans Dietz Apartments, LP 205 California Avenue Chester Hancock County WV 26034
Site Operator(s)	Anchor Hocking Corporation 109 North Broad Street Lancaster Ohio 43130 614-687 2061 Taylor-Smith and Taylor Co P O Box 197 Chester WV 26034 304 387 2626
Site Contacts	Alicia Arms Apartments LP 850 Plutus Avenue Chester Hancock County WV 26034 304 387 0701 Hans Dietz Apartments LP 205 California Avenue Chester Hancock County WV 26034

CERCLIS No WVN000305784

Rock Spring Enterprises Inc
P O Box 95
Chester Hancock County WV 26034

Mr Robert Dietz
13633 Ivan Court
East Liverpool Columbiana County OH 43920
330 386 3813

To reach the site from Wheeling WV travel I 70W to Ohio State RT (SR) 7 North Merge onto US 30 in East Liverpool OH Cross the Jennings Randolph Bridge and turn right onto West Virginia (WV) SR 2 Turn Left on to Plutus Street The distance from Wheeling is approximately 52 miles

2 2 SITE DESCRIPTION

The 8th and Plutus Streets Pottery Site is the location of the Former Taylor Smith and Taylor Company It is located in the northern portion of Chester Hancock County WV at the intersection of 8th Street and Phoenix Avenue (Figure 2 1)

Hancock County is characterized by hills and narrow valleys Slopes are generally very steep to steep along the walls of the valleys The climate is humid and continental The general area is influenced by cold dry air masses from the northern part of the continent and by warm humid tropical air masses from the Gulf of Mexico It is directly in the path of large cyclonic storms that travel northeastward up the Ohio Valley The annual average temperature ranges from 42 F to 63 F The average annual precipitation is 38 57 inches (Reference 1)

The majority of the site is occupied by a large defunct pottery manufacturing facility Practically all of the original facility is still intact The largest building is the main factory building which houses th furnace treatment and finished product storage areas Also on the property is an adjacent office building batch material silos and two modern warehouse buildings On the southwest side of the site is a large waste pile consisting of broken pottery pieces and debris Located outside the building near the center of the site are several transformers which are staged directly on the ground The site also is home to an abandoned oil well and storage tank on the southwest side of the main building The pile is located on a steep embankment that trails directly to the Ohio River The primary land use of the surrounding area of the site includes both residential and commercial properties The site is bordered to the northeast

by a residential community including Alicia Arms Apartments and Hans Dietz Apartments to the southeast by commercial property including Marks Run to the southwest by the Jennings Randolph Bridge and to the northwest by the Ohio River

2.3 SITE OWNERSHIP HISTORY

Taylor Smith & Lee Pottery (1900 1907)

Taylor Smith & Taylor Co (1907 1971)

Anchor Hocking Corporation (merger with Taylor Smith & Taylor Co) (1971 1982)

Hans F Dietz (1984 1989)

Marian and Robert Dietz Jan and Primo DiCarlo (1989)

Rock Spring Enterprises Inc (1989 present)

Hans Dietz Apartments LP (sub parcel from Rock Spring Enterprises Inc) (2/2002 to present)

The 9 52 acre 8th and Plutus Streets Pottery Site was sold to C A Smith in 1899 The land was then sold to Taylor Lee and Smith Co in 1900 In 1907 the land was sold to Taylor Smith and Taylor Co In 1971 Taylor Smith and Taylor Co merged with Anchor Hocking Corporation The facility was permanently closed by the Anchor Hocking Corporation in early 1982 Anchor Hocking Corporation then sold the property to Hans Dietz in 1984 Hans Dietz died in May of 1989 and willed the property to Marian and Robert Dietz (the parents of Hans Dietz) and Jan and Primo DiCarlo The property was then sold to Rock Spring Enterprises Inc in November of 1989 Currently the site is owned by Rock Spring Enterprises Inc and Hans Dietz Apartments LP (sub parcel) The pottery factory has been inactive since 1982

2 4 SITE OPERATIONS//REGULATORY HISTORY

The 8th and Plutus Streets Pottery Site was in operation from 1900 to 1981 It operated as a pottery manufacturing company under three different company names Operations included the basic teps in the manufacturing of ceramic based products the majority being ceramic dinnerware Some of the starting materials used included Ball Clay Fire Clay Slip Clay Flint Talcum and Feldspar Starting materials were added proportionately through the use of a silo storage system One of the steps involved in pottery manufacturing was glazing of the finished pottery This glazing process consisted of applying colored minerals mixed with various chemical oxides to the pottery This process introduced several

materials into the process which included metals such as lead arsenic antimony barium, cadmium, cobalt copper nickel and chromium The glaze was used to coat the pottery and was probably fired at 2400 F for approximately 24 hours (Reference 2)

The Taylor Smith and Taylor Company applied for an NPDES Permit in November of 1974 The permit No WV0004685 issued by EPA specifically regulated the discharge of arsenic barium cadmium hexavalent chromium mercury silver and lead One main outfall was identified by the permit as Outfall # 001 In the monitoring period between January and March of 1975 an exceedence of the permitted level of lead was documented These levels did drop during the following monitoring period however still exceeded the permitted level In order to correct this the Taylor Smith and Taylor Company made an agreement with the City of Chester to send their effluent through the Chester sewer system and subsequently to the Chester Wastewater Plant The NPDES permit for Outfall #001 was kept in effect as a contingency should there be a need to discharge to the outfall in the event of an emergency Following the expiration of the permit on November 30 1979 the Company (at the time operating under the Anchor Hocking name) re applied for the permit but was denied Anchor Hocking formally withdrew its permit application on December 7 1979

In late 1998 West Virginia Department of Environmental Protection (WVDEP) collected a soil sample from the property This sample data revealed a lead level of 61 000 parts per million (ppm) This information was forwarded to the EPA Region III Removal Section who subsequently conducted a reconnaissance of the site

In June of 2001 WVDEP collected a total of 18 samples 10 of these samples were collected from the area of the ceramic waste debris pile on the property Levels of lead ranged from 688 ppm to 158 000 ppm A trip report of this event was drafted and forwarded to the EPA Region III Removal Section This information was then forwarded to the EPA Region III Brownfields and Site Assessment Section

2 5 PREVIOUS INVESTIGATIONS

2.5 1 Environmental Protection Agency Removal Section 1999 Investigation

On January 21 1999 EPA OSC Jeff Dodd WVDEP Representative Blumish and SATA Contractor Tom Licker conducted a windshield assessment of the property based on a soil sample collected by WVDEP Blumish in late 1998 that revealed a lead level of 61 000 ppm The representatives observed the area of broken pottery debris on the western side of the site At the time WVDEP Blumish indicated that two buildings on site were being leased to other companies for storage One company DTC Tank Cleaning, reportedly stored raw materials on site At the time it was the intention of the OSC to conduct a sampling event though no evidence exists that this planned sampling event was ever implemented (Reference 3)

2.5 2 West Virginia Department of Environmental Protection (WVDEP) 2001 Investigation

On June 8 2001 WVDEP Division of Waste Management Fairmont District Office conducted a site reconnaissance and sampling event at the former Taylor Smith & Taylor Pottery facility with the permission of Mr Robert Dietz a representative of Rock Spring Enterprises Inc thought to be the sole current owner by WVDEP officials A total of 18 samples were collected at various locations on the property Ten of these samples were collected from waste ceramic materials that covered the outer perimeter of the facility from the southwest to the southeast sides Analytical results indicated the lead concentrations ranging from 688 ppm to 158 000 ppm The eight remaining samples were collect inside the facility and analyzed for total arsenic barium cadmium chromium and selenium as well as asbestos Chrysotile asbestos was reported at concentrations of 15% in a sample of pipe insulation collected inside the building The WVDEP referred the site to EPA due to the elevated levels of lead present around the facility (Reference 4)

2 5.3 START and WVDEP 2002 Site Reconnaissance

On May 17 2002 START accompanied WVDEP in conducting a perimeter reconnaissance of the inactive facility WVDEP indicated the locations of the June 8 2001 sampling event and START received a copy of the WVDEP Trip Report along with the analytical data All site access gates were open or missing at the time of the visit There is no fence or barrier around the majority of the perimeter of the site On the southeast end of the property several above ground storage tanks were observed On the eastern end of the property START observed evidence that an old facility office building was being

used as a residence The property across the street from this building is the Alicia Arms Apartments complex The complex consists of 32 apartments START observed that broken ceramic debris covered most of the ground around the southwestern to southeastern perimeter of the building structure Located near the building in the vicinity of the debris waste is an abandoned oil well with an adjacent oil tank START also observed several transformers located at the center of the property in close proximity of the water tower and the batch silos Other scrap materials and abandoned debris observed on the site included old cars a boat old scales and construction related debris A small portion of the eastern section of the property is used to store empty storage tanks and various machinery This area includes two buildings which are leased to other companies

Inside the main building START observed several examples of graffiti which appeared to be recently painted START noted the failing structural integrity of some of the floors stairwells and ceiling in the buildings The upstairs floor appeared dangerously deteriorated due to large size breaches in the roof START observed several empty 55 gallon drums in the buildings as well as ceramic and batch materials START also observed drainage areas and basins underneath the floors in the former water treatment area of the facility Mostly all of these areas were filled with what appeared to be water at the time of the site visit

START observed two direct drainage pathways which serve as two probable points of entry (PPE) to the Ohio River The first PPE being a ditch that originates from the southwestern side of the site and drains directly to the river and the other being a discharge area from the east side of the site to Marks Run which also flows into the Ohio River The large waste pile of ceramic debris borders both the ditch to the river and Marks Run

2 6 SOURCE CHARACTERISTICS

Based on the 1998 and 2001 sampling results from the events conducted at the site by WVDEP elevated levels of lead are believed to be present in the ceramic waste pile and surrounding soils thus the potential sources of contamination at the site include the waste pile of ceramic debris which encompasses the majority of the southern side of the site soils from the entire site where contaminants may have migrated and transformers located near the center of the site where PCB contamination may be present Nearly all of the hazardous substances associated with these operations are Target Analyte List (TAL) metals such as lead cadmium cobalt chromium and antimony which were used in the pigmentation or

glazing processes Lead levels from the WVDEP investigations ranged from 688 to 158 000 ppm in waste and a maximum of 61 000 ppm lead in soil was also documented Samples collected were not analyzed for PCBs during either of the two sampling events conducted by WVDEP

2 7 MIGRATION/EXPOSURE PATHWAYS AND TARGETS

2 7 1 GROUND WATER PATHWAY

2 7 1 1 Geology and Hydrogeology

The 8th and Plutus Streets Pottery Site is regionally located in the Appalachian Plateaus Province The site is more specifically located in the area of the Ohio River Basin which is located in an area where bedrock is situated into low amplitude folds The rocks in this area dip south southeast at rates varying between 15 and 30 feet per mile (Reference 5)

The site is situated on the northern section of the Ohio River flood plain Most of the alluvium in the Ohio River Valley is of fluvioglacial origin Its grain size tends to diminish downstream which would indicate the a gradual diminution of permeability Analysis of the lithologic character of the alluvium indicates a relatively high percentage of chert which is indicative of Wisconsin age deposits The Ohio River along West Virginia has become entrenched in sedimentary strata of Pennsylvanian and lower Permian age which is grouped as follows

Quaternary System Alluvium

Permian System Greene and Washington Series

Pennsylvanian System Monongahela Conemaugh Allegheny and Pottsville Series (Reference 5)

The Ohio River from Chester WV downstream to Weirton WV is cut into the uppermost strata of the Pottsville series which is composed mainly of coarse grained massive sandstones silty shales or siltstone Where no impervious clay or silt formations exist in the section below the level of pool stage th thickness of the alluvium represents the thickness of the aquifer The thickness of the alluvium near Chester WV is generally between 45 to 50 feet (Reference 6) Yields of wells completed in the alluvium in Grant District in Hancock County range approximately between 550 and 1700 gallons per minute (gpm) Deposits of clay and silt ranging from a few feet to 40 feet thick underlie the flood plain of the Ohio River This layer averages 10 feet in thickness and is due to the repeated inundations of the

flood plain Some of these deposits are fine enough to be classified as sandy clay or sandy silt This layer is sufficiently impermeable and acts as a confining bed that produces artesian conditions in some places (Reference 5)

Chester WV obtains its current municipal drinking water supply of 600 000 to 700 000 gallons per day (gpd) from a cribbing system located 50 or more feet below the river bed A cribbing system is basically a wooden framed structure that acts as water receiver and works much in the way a Ranney well does Regular periodic analysis of the Chester WV cribbing system source water indicates the presence of iron and manganese in higher than ideal levels However lead and other metals are seemingly always undetected This source water which is artesian in nature reportedly maintains the same water quality throughout the year even despite severe flooding or drought conditions (Reference 6) This is believed by many to be an entirely separate aquifer located below the alluvium and possibly in shallow bedrock This aquifer is sometimes referred to as the Fourth River The name Fourth River comes from the sequential numbering of the three rivers located at the origin of the Ohio River (1) which is formed by the confluence of the Allegheny River (2) and the Monongahela River (3) at Point Park in Pittsburgh PA (Reference 13) Chester WV also maintains an auxiliary well which reportedly can yield 800 gpd (Reference 5)

Most of the exposed rocks of Hancock County are members of the Allegheny and Pottsville geologic series (Reference 7) These rocks consist primarily of interbedded brown and gray shale limestone coal and a few angular beds of limy red shale (Reference 1)

The annual net precipitation for the area is 14 97 inches as measured at Wheeling West Virginia located approximately 52 miles south of Chester (Reference 8) The 2 year 24 hour rainfall is approximately 2 5 inches (Reference 9)

7 1 2 Ground Water Receptors

The City of Chester and surrounding sub urban to rural areas obtain drinking water primarily from Chester Water Authority which obtains its water from a point located approximately one half mile north of the site in the Ohio River This water source is listed as having a 500 foot diameter wellhead protection area (Reference 10) As mentioned above this is accomplished via a cribbing system that permits artesian water to flow from an aquifer just underlying the alluvial base below the river bed to the

water treatment facility Water quality analysis demonstrates no hydraulic connection to the alluvial aquifer Furthermore periodic monitoring is absent of detecting lead in this source water (Reference 6) Other than this system there are no public supply water wells located within a 4 mile radius of the site (Reference 10) Limited information is available on specific domestic wells and their usage in the area There are no known domestic wells within 0 25 miles of the site Table 2 1 provides the population within a 4 mile radius of the site that uses groundwater as a source of drinking water based on the 2000 U S Census Data (Reference 11)

7 2 SURFACE WATER PATHWAY

7 2 1 Surface Water Pathway Characteristics

The 8th and Plutus Streets Pottery Site is located on the flood plain above the left descending bank of the Ohio River near Mile point 42 5 The facility lies on a flood plain shelf that is 50 feet above average pool level A steep slope separates this shelf from the pool level of the river There are two PPE locations associated with the site The first PPE location is at the point where the ditch that trails off from the waste pile of ceramic debris meets the river the second is at the point where historic discharge entered into Marks Run via a process outfall (Outfall 001) located on the southeastern end of the site The majority of the site s surface area is occupied by the buildings of the facility Gravel roads thick grass and wooded areas cover most of the remainder of the site area The 15 mile Target Distance Limit (TDL) extends downstream in the Ohio River to New Cumberland Hancock County West Virginia

Gaging Station No 03086000 is located at Sewickley PA approximately 30 miles upstream of the site Based on historic flow records at this station the Ohio River would be classified as a large river with a mean flow rate of 33 383 cubic feet per second (cfs) based on data from 1934 to 2000 with the highest annual mean flow fate of 53 940 cfs in 1996 and the lowest annual mean of 20 470 cfs in 1934 (Reference 12)

The upgradient drainage area is estimated to be approximately 10 acres roughly equivalent to the total surface area of the site based on the general topography of the site and surrounding area (Reference 11)

The 2 year 24 hour maximum rainfall for the area is approximately 2 5 inches (Reference 9) The lower elevation portions of the site are located within the 100 year flood zone including portions of the ceramic waste debris pile The upper elevations of the site are identified in an area of minimal flooding (Reference 22)

Soils at the site are classified as in the Berks Allegheny Monongahela association which are identified as moderately steep to mostly very steep well-drained soils facing the Ohio River and gently to strongly sloping soils on dissected terraces No survey information of specific site soils types is currently available but soil types of nearby adjacent soils have been identified The types include primarily Berks soils with anywhere from 30 to 65 percent slopes Berks soils generally have a low moisture capacity with moderately rapid permeability (Reference 1)

The potential sources of contamination at the site include the ceramic waste debris pile transformers that may have introduced PCB contamination into surrounding soils and soils surrounding the pottery factory manufacturing buildings where batch materials were possibly transported/spilled

2 7 2 2 Surface Water Receptors

The 8th and Plutus Streets Pottery Site is located in the Upper Ohio River Basin The Ohio river is divided into several sections or hydrologic units (HUCs) The site falls well within section HUC No 05030101 which includes nearby sections of Ohio Pennsylvania and West Virginia and extends downstream to a point just south of Steubenville Ohio The population living within the boundaries of this HUC totaled approximately 938 000 in 1990 (Reference 15)

There are no drinking water intakes located within the 15 mile TDL in the Ohio River (Reference 10 16) The residents of the area surrounding the site obtain their drinking water from the Chester Water Authority which as mentioned previously obtains its water from a cribbing system Across the river in East Liverpool Ohio surface water is obtained from an intake in the Ohio River located approximately one mile upstream of the site According to 1990 census data some area residents obtain drinking water from private wells (Reference 11)

The Ohio River is used for recreational fishing in the vicinity of the site (Reference 17) Thirty four species of fish (bass drum catfish for example) accounting for 761 pounds per acre were identified

in a 1998 lock chamber survey at the New Cumberland Locks and Dam located at Mile Point 54 Of this total 215 pounds per acre of harvestable game fish were collected (Reference 18) A fish consumption advisory issued by the State of West Virginia due to dioxin Mercury and PCB contamination is in effect for the entire length of the Ohio River The advisory places meal frequency limits on specific species of fish and recommends that carp and channel catfish longer than 17 inches not be eaten (Reference 19)

There are no threatened or endangered species or critical habitats located within the 15 mile TDL (Reference 20) There are no state or federal parks wildlife refuges scenic streams or wildlife management areas within the 15 mile TDL (Reference 14) There are no qualifying wetlands within the 15 mile TDL (Reference 21)

2 7.3 SOIL EXPOSURE PATHWAY

The 8th and Plutus Streets Pottery Site is located along the left descending bank of the Ohio River The site is bounded to the northwest by the Ohio River to the northeast by a residential community to the southeast by commercial property and to the southwest by the Jennings Randolph Bridge, part of US Route 30 (Figure 2 1)

The approximately 10 acre site is not enclosed by a contiguous fence or barrier Gates attached to a failing fence on the northwest side of the site are always open Another fence exists on the northeastern side of the site however it is incomplete The site has no security at any time Approximately 5 5 acres of the surface area of the site is occupied by the buildings of the pottery factory facility

The following are potential sources of contamination within 0 to 2 ft. below ground surface (BGS)

1 Soils beneath or amidst the ceramic waste debris pile (approximately 2 acres in size)

2 On site and offsite ditches

3 Site soils in close proximity of the transformers

The area of contaminated on site soil is estimated to be approximately 4 5 acres The population within the 1 mile travel distance of the 8th and Plutus Streets Pottery site is approximately 1644 people There are no known daycare centers within the 1 mile travel distance Allison Elementary School is

located approximately 0 2 mile travel distance southwest of the site This school has an enrollment of 479 students and 57 staff members Oak Glen Middle School is located approximately 0 3 mile travel distance from the site This school has an enrollment of 308 students and 38 staff members (Reference 3) The population data is summarized in Table 2 2

There are currently two buildings on site which are leased to businesses and are used for equipment storage Also several storage tanks are stored on site There are no commercial agriculture silviculture or livestock production/grazing activities on any of the properties surrounding the site There are no schools or day care centers located within 200 ft of the site The office building is now situated on a sub parcel of the original Taylor Smith & Taylor Co property This building houses an assumed resident population of approximately 2 38 which is the area average household population (Reference 11) Actual resident population information could not be obtained at this time The nearest off site residents occupants at the Alicia Arms Apartments are housed approximately 25 feet from the property There are 32 units in the Alicia Arms Apartments complex There are no known terrestrial sensitive environments or wetlands located on the site (Reference 21)

2 7 4 AIR PATHWAY

2 7 4 1 Air Pathway Characteristics

A significant portion of the 8th and Plutus Streets Pottery site is covered with buildings and areas of thick grass and wooded cover The remaining areas include the ceramic waste debris pile and the steep slope to the Ohio River The majority of the ceramic debris on the surface of the pile are relatively large pieces probably averaging at least one cubic centimeter and larger These pieces act as a cover to smaller underlying debris and would not be easily released to the air The man made and natural cover also limits the potential for release of particulate material to the air

2 7 4 2 Air Receptors

The area within the 4 mile TDL includes rural commercial industrial and residential properties (Reference 14) The population within the 4 mile radius in summarized in Table 2 3 The nearest

regularly occupied residence is located on the northeastern side of the pottery facility and is approximately 300 feet from the visible ceramic waste debris pile

No commercial agriculture or silviculture was discovered within 0 5 mile of the site Furthermore there are no threatened of endangered species or critical habitats within the 4 mile radius TDL (Reference 20) There are no state or federal parks wildlife refuges scenic streams or wildlife management areas within the 4 mile TDL

The National Wetlands Inventory maps indicate the presence of approximately 2 acres of Hazard Ranking Systems (HRS) eligible wetlands within the 4 mile TDL (Reference 21) The wetland areas are summarized by distance rings in Table 2 3

Table 2 1

GROUNDWATER DRINKING WATER POPULATION WITHIN A 4 MILE RADIUS
8th and Plutus Streets Pottery Site SI
Chester, Hancock County WV

Distance (miles)	Wells	Population
On site	0	0
0 /	0	0
/ ½	1	2 5
½ 1	29	63
1 2	87	178
2 3	78	184
3-4	98	259
Total	**293**	**686.5**

Table 2 2

POPULATIONS WITHIN A 1 MILE TRAVEL DISTANCE

8th and Plutus Streets Pottery Site SI

Chester Hancock County WV

Distance Rin_	Population
On site	2 3
0 /	740 54
/ ½	1310 29
½ 1	1644 30
Total	**3697 43**

Includes school populations from applicable distances See section 2 7 3

Table 2 3

POPULATION AND WETLANDS WITHIN A 4-MILE RADIUS

8th and Plutus Streets Pottery Site SI

Chester Hancock County, WV

Distance Ring (miles)	Population	Wetlands (acreage)
On site	2 3	0
0 /	261 54	0
/ ½	1002 29	0
½ 1	1644 3	1
1 2	1731 11	0
2 3	2283 77	<0 1
3 4	989 64	1
Total	**7914 95**	**2**

3 5 DOCUMENTATION AND RECORDS

Documentation will be conducted in accordance with E & E s *Quality Assurance Project Plan (QAPP) for US EPA Region 3 Superfund Technical Assessment and Response Team (START)* (Reference 24) Information to be documented and record keeping requirements also are covered by the Standard Operating Procedures (SOPs) found in Appendix B of this document the Commercial and CLP Laboratory Statements of Work and the commercial laboratory Quality Assurance Manual as applicable Standards contained in the SOPs the START QAPP and the E & E QMP will be used to ensure the validity of data generated by E & E for this project

3 5 1 Deliverables

Following the completion of field work and the receipt of analytical data a report summarizing project findings will be prepared Project files including work plans reports analytical data packages correspondence chain of-custody documentation logbooks corrective action forms referenced materials and photographs will be provided to the EPA SAM at the close of the project

If requested by the SAM all deliverables under this project will be submitted on CD ROM The CD ROM will be labeled with the site name site location CERCLIS No TDD No name of the deliverable the contractor name date and draft or final Reports submitted on CD ROM will be provided in the following formats or as directed/approved by EPA text will be provided in WordPerfect version 6 1 or later spreadsheets will be prepared in Lotus 1 2 3 version 5 or later databases will be prepared in Access and graphics will be created using AutoCAD Freelance Page Maker or PowerPoint The report also will be submitted in an Adobe Acrobat format (pdf) and HTML format as well as in the original text or data version

4 MEASUREMENT/DATA ACQUISITION

4 1 SAMPLING PROCESS DESIGN

During the 8th and Plutus Streets Pottery Site SI samples will be collected from locations or features considered to be potential contamination sources from selected potential hazardous substance migration pathways and from potential targets within those pathways The locations or features to be sampled were determined based on information derived from a review of background information and interviews with site representatives Table 4 1 provides a list of all proposed samples sample numbering the requested analyses for each sample a description of the location and the rationale for collecting the sample

At the time of sampling site specific conditions (i e topography or visual evidence of contamination) will be evaluated and incorporated when applicable into the placement of sampling locations If feasible verbal approval will be obtained from the EPA SAM prior to any significant change in sampling location Other conditions potentially contributing to deviations from the projected sampling locations include new observations or information obtained in the field that warrant an altered sampling approach difficulty in reaching a desired soil sampling depth caused by adverse soil conditions or obstructions or limited access to a sampling location Significant deviations from the planned sampling locations or number of samples to be collected will be discussed with the EPA SAM before implementation and will be documented in the site logbook Every attempt will be made to collect representative samples with the equipment being used

4 1 1 Sampling Locations

Sample locations have been selected to achieve the objectives presented in Section 1 A summary of sampling locations and rationale are provided in sections 4 1 1 1 through 4 1 1 3 A discussion of QA/QC samples is provided in section 4 1 1 4 Sampling locations are depicted in Figure 4 1

4 1 1 1 Source Sample and Overland Flow Sample Locations

Two main source areas were identified by the START for further investigation Source areas include the ceramic waste material on the ground on the southwest side of the property and the transformers lying on the ground between the buildings in the middle of the property Along with the ource samples mentioned below three overland flow samples will be used to define the flow path from the site to the Ohio River These samples will be collected and analyzed for both PCB and TAL metals and hexavalent chromium analyses Hexavalent chromium will be specifically analyzed because it was a pecific element listed in the NPDES permit TAL metals analyses only indicates total chromium so a eparate analysis for hexavalent chromium will be necessary

1 **Waste Ceramic Material** This waste ceramic material is located at the southwest side of the property It is comprised of various broken pieces of colored pottery and china During the WVDEP June 8 2001 sampling event ten waste samples collected from this source were analyzed for lead and results ranged from 688 ppm to 158 000 ppm This waste ceramic material covers an area approximately three acres in size Heavy metals such as antimony arsenic cadmium chromium cobalt and lead were used in the pigments for coloring the pottery and pottery glaze START will collect two samples of this waste ceramic material for Target Analyte List (TAL) Metals Analysis and hexavalent chromium analysis

2 **Transformer Area Soil** START observed several transformers on the ground in an opening between two buildings START will collect two surface soil samples from the ground 0 to 6 inches beneath the transformers START will bias these sample locations points towards any stained soil or other unusual conditions encountered at the time of sampling START will analyze these samples for TAL Metals hexavalent chromium and polychlorinated bi phenyls (PCB) analyses

4 1 1 2 Target Sample Locations

Target samples will include the collection of soil samples from the following areas two samples from near (within a few feet) the residence on the property and three samples from residences (Alicia Arms Apartments and Hans Dietz Apartments) across the street from the facility Three sediment samples one from each of the two PPE points and one where Marks Run enters into the Ohio River will

bi collected This will include one sediment sample from the Outfall 001 area in Marks Run and the other sediment sample from the point at which the ditch at the base of the waste pile enters the Ohio River All samples will be collected and analyzed for TAL metals hexavalent chromium and PCB analyses

4 1 1.3 Background Locations

Background samples will be collected for each of the naturally occurring media from which SI samples are collected Those media include soil and sediment

1 **Background Soil** Two background surface soil samples will be collected during the SI Samples SS01 and SS02 will be collected offsite the exact location to be determined at the time of sampling These samples will be used in comparison with all other surface soil samples collected

2 **Background Sediment** Two background sediment samples will be collected to evaluate the target sediment samples Sample SD01 will be collected upstream of the PPE in Marks Run SD00 will be collected from upstream in the Ohio River Since the ditch below the ceramic waste pile originates on site no background sample will be required since no upstream area exists The sample from Marks Run will be used in comparison with both PPE sediment samples

4 1 1 4 Quality Assurance/Quality Control Samples

For quality assurance and control purposes one duplicate per ten samples per matrix will be collected and sent for analysis This will amount to one soil samples and one sediment sample Additional sample volume will be provided for one sample per 20 samples to allow the lab to perform the necessary MS/MSD analyses All sampling equipment used will be disposable or dedicated to avoid cross-contamination and therefore no rinsate blanks are needed Also a field blank will be collected The field blank will help evaluate the potential for contamination due to field activities Table 4 3 summarizes the field and QA/QC samples

4 1 2 Analytical Results Evaluation Criteria

Analytical results for all samples will be compared to background sample results and sample quantitation limits (SQLs) to determine whether observed contamination or observed release can be documented To meet observed contamination or observed release criteria the concentration of a constituent in the sample must be greater than its SQL and significantly greater than the background level The concentration required to document an observed release for each constituent will be established at a concentration equal to three times the concentration detected in the background sample If the constituent is not detected in the background sample the background sample SQL will be used as the background level If the SQL for a constituent cannot be established and the sample analysis was performed under the CLP the Contract Required Quantitation Limit (CRQL)/Contract Required Detection Limits (CRDL) will be used If the SQL for a constituent cannot be established and the sample analysis was not performed under the CLP the Method Detection Limit (MDL) will be used

4 1 3 Global Positioning System

A global positioning system (GPS) unit with a data logger will be used to identify the location coordinates of every sample collected as well as to delineate the boundaries of the potential source areas GPS coordinates will be provided to EPA in the site files at the completion of the project

4 1 4 Logistics

The 8th and Plutus Streets Pottery Site is accessible by ground transportation Samples collected for fixed laboratory analysis will be delivered to the EPA Region 3 laboratory or an alternative laboratory as directed by the EPA Samples collected for TAL Metals and PCB analysis will be shipped to the designated CLP EPA Regional Lab or CST approved procured subcontract laboratory by START personnel All samples will be shipped by Fedex for express delivery

4 1 5 Coordination with Federal State and Local Authorities

START will keep the SAM apprized of field event progress and issues that may affect the schedule or outcome of the SI discuss problems encountered inform the EPA of unusual contacts with the public or the media and obtain guidance from the EPA regarding project activities when required Additionally START will notify the EPA SAM with changes to the sampling shipment schedule Before initiation of the field activities START will provide notification to Mr Robert Dietz, the current property owner one week before scheduled activities as required by EPA SAM

4 2 SAMPLING METHODS REQUIREMENTS

4 2 1 Sampling Methods

The START PM and EPA SAM will be responsible for ensuring that appropriate sample collection procedures are followed and will take appropriate actions to correct any deficiencies All samples collected will be maintained under chain of-custody and will be stored and shipped in coolers with ice at 4° C

Table 4 2 summarizes specific requirements for sample container size and type sample preservation and holding times and special handling requirements for samples to be submitted according to the method requirements Table 4 3 presents the anticipated number and type of samples and analytical methods and the number of QA/QC samples expected to be collected at the site The sampling methods for each medium are as follows

Surface Soil Sampling Surface soil samples (0 to 6 inches BGS) will be collected using a dedicated plastic/teflon disposable scoop Collected material will be placed in a dedicated aluminum pie pan homogenized thoroughly (except for hexavalent chromium analysis samples which require the samples to not be homogenized) and placed into prelabeled sample containers

Waste Sampling Surface soil and waste material (0 to 6 inches BGS) will be collected using dedicated disposable plastic/teflon scoops Collected material will be placed in dedicated bowls homogenized thoroughly when applicable and placed into pre labeled sample containers

Sediment Sampling Sediment samples will be collected by using a dedicated plastic/teflon scoop The collected sediment will be homogenized thoroughly in a dedicated plastic/teflon bowl and placed into pre labeled sample containers Sediment samples will be collected from downstream to upstream

4 2 2 Sampling Equipment Decontamination

The START plans to use disposable and/or dedicated personal protective equipment and sampling equipment to the maximum extent practicable to avoid cross-contamination Equipment will be di contaminated in accordance with E & E SOPs (as listed in Appendix B)

4.2 3 Investigation Derived Wastes

START field team members will make every effort to minimize the generation of investigation derived wastes (IDW) throughout the field event All IDW will be managed in accordance with EPA s *Managing Investigation Derived Wastes for Site Inspections* Office of Solid Waste and Emergency Response (OSWER) Directive 9345 3 02 and EPA 540 G 91/009 Attempts will be made to evaporate wastewater from decontamination operations on site All wastewater will be contained in 55 gallon drums or other appropriate containers labeled and disposed of at an approved facility based on SI analytical results from a profile sample Disposable personal protective equipment and sampling equipment generated during field activities will be rendered unusable by tearing (when appropriate) bagged in opaque plastic garbage bags and disposed of at a municipal landfill (unless deemed hazardous)

4 2 4 Standard Operating Procedures (SOPs)

START will utilize the following SOPs while performing field activities

Field Activities Logbook
Geotechnical Logbook/Trip Report Preparation
Sediment Sampling
Sample Packaging and Shipping
VOC Soil and Sediment Sampling and
Site Entry Procedures

4 3 SAMPLE HANDLING AND CUSTODY REQUIREMENTS

This section describes sample identification and chain-of-custody (COC) procedures that will be used for the SI field activities The purpose of these procedures is to ensure that sample integrity is maintained during collection transportation storage and analysis All COC requirements comply with E & E s SOPs for sample handling All sample control and COC procedures will follow the *User s Guide to the Contract Laboratory Program* (Reference 24) and *Users Guide for Acquiring Analytical Services Region 3 Client Services Team* (Reference 25) [as applicable]

Examples of sample documents used for custody purposes include the following

Sample identification numbers

Sample tags or labels
Custody seals
COC and traffic report records
Field logbooks
Sample collection forms
Analytical request forms and
Analytical records

During the field effort the PM or delegate is responsible for maintaining an inventory of these sample documents This inventory will be recorded in a cross referenced matrix of the following

Sample location
Sample identification number
Analyses requested
COC record numbers
Bottle lot numbers and
Air bill numbers

Brief descriptions of the major sample identification and documentation records and forms are provided below

4 3 1 Sample Identification

All samples will be identified using the sample numbers assigned either by the EPA or by the Field Team Each sample label will be affixed to the jar or tied around the neck A sample tracking record will be kept as each sample is collected The following will be recorded location matrix sample number observations and depth In addition to the EPA assigned sample number samples will be tracked with a sample code system designed to allow easy reference to the sample s origin and type The sample code key will not be provided to the laboratory Table 4 1 summarizes the sample numbering strategy for this project

4.3 1 1 Sample Tags and Labels

Sample tags attached to or fixed around the sample container will be used to identify all samples collected in the field The sample tags will be placed on bottles so as not to obscure any QA/QC lot numbers on the bottles and sample information will be printed legibly Field identification will be sufficient to enable cross reference with the project logbook For COC purposes all QA/QC samples will be subject to the same custodial procedures and documentation as site samples

To minimize handling of sample containers labels will be completed before sample collection to the extent possible The labels will be filled out completely using waterproof ink The sample label will provide the following information

EPA Sample number (if applicable)
Sample location number
Date and time of collection
Analysis required
Initials of sampler and
pH and preservation (when applicable)

4.3 1 2 Custody Seals

Custody seals are preprinted seals designed to break if disturbed Sample shipping containers (e g coolers drums and cardboard boxes as appropriate) will be sealed in as many places as necessary to ensure security Seals will be signed and dated before use Clear tape will be placed over the seals to ensure that they are not broken accidentally during shipment Upon receipt of shipment at the laboratory the custodian will check (and certify by completing the package receipt log) that seals on shipping containers are intact

4 3 1.3 Chain of Custody Records and Traffic Reports

For samples to be analyzed at the EPA OASQA Laboratory or at a CLP laboratory the chain-of-custody record and/or analytical traffic report forms will be completed as described in the *User s Guide to the Contract Laboratory Program* (Reference 24) and the *User s Guide for Acquiring Analytical Services Region 3 Client Services Team* (Reference 25) The COC record and analytical traffic reports will be completed fully at least in duplicate Information specified on the COC record will

contain the same level of detail found in the site logbook, except that the on site measurement data will not be recorded The custody record will include the following information

Name and company or organization of person collecting the samples

- Date samples were collected
- Type of sample collected (composite or grab)
- Sample number

Location of sampling station (using the sample code system described in Table 4-4)

- Number of containers shipped
- Analyses requested and
- Signature of the person relinquishing samples to the transporter with the date and time of transfer noted and signature of the designated sample custodian at the receiving facility

If samples require rapid laboratory turnaround the person completing the COC record will note these or similar constraints in the remarks section of the custody record

The relinquishing individual will record all shipping data (e g air bill number organization time and date) on the original COC record which will be transported with the samples to the laboratory and retained in the laboratory s file Original and duplicate COC records together with the air bill or delivery note constitute a complete COC record It is the PM s responsibility to ensure that all records are consistent and that they become part of the permanent job file

4.3 1 4 Field Logbooks and Data Forms

Field logbooks (or daily logs) and data forms are necessary to document daily activities and observations Documentation will be sufficient to enable participants to reconstruct events that occurred during the project accurately and objectively at a later time All daily logs will be kept in a bound notebook containing numbered pages All entries will be made in waterproof ink dated and signed No pages will be removed for any reason

Minimum logbook content requirements are described in the E & E SOP entitled *Field Activities Logbook* If corrections are necessary these corrections will be made by drawing a single line through the original entry (so that the original entry is legible) and writing the corrected entry alongside The correction will be initialed and dated Corrected errors may require a footnote explaining the correction

The following information will be included in field logs

- Name of the person making the entry (and signature at the bottom of each page)
- Names of team members subcontractors and visitors on site
- Level of personal protective equipment used and
- Time date number and description of each sample collected

4.3 1 5 Photographs

Photographs will be collected as directed by the PM Documentation of a photograph is crucial to its validity as a representation of an existing situation The following information will be noted in the project or task log concerning photographs

- Date time and direction where photograph was collected
  Photographer s initials
- Description of photograph taken and
- Sequential number of the photograph and the film roll number

4 3 2 Custody Procedures

The primary objective of COC procedures is to provide an accurate written or computerized record that can be used to trace the possession and handling of a sample from collection to completion of all required analyses A sample is in custody when it is

- In someone s physical possession
- In someone s view
- Locked up or
  Kept in a secured area that is restricted to authorized personnel

4.3.2 1 Field Custody Procedures

The following guidance will be used to ensure proper control of samples while in the field

- As few people as possible will handle samples
- Coolers or boxes containing certified clean bottles will be sealed with a custody tape seal

during transport to the field or while in storage before use Sample bottles from unsealed coolers or boxes or bottles that appear to have been tampered with will not be used

- The sample collector will be responsible for the care and custody of collected samples until they are transferred to another person or dispatched properly under COC rules
- The sample collector will record sample data in the field logbook
- The PM will determine whether custody procedures were followed during the field work and will decide if additional samples are required

When transferring custody (i e releasing samples to a shipping agent) the following will apply

- The coolers in which the samples are packed will be sealed and accompanied by a COC record When transferring samples the individuals relinquishing and receiving them must sign date and note the time on the COC record This record will document sample custody transfer
- Samples will be dispatched to the laboratory for analysis with separate COC records accompanying each shipment Shipping containers will be sealed with custody seals for shipment to the laboratory The COC records will be signed by the relinquishing individual and the method of shipment name of courier and other pertinent information will be entered in the COC record before placement in the shipping container
- All shipments will be accompanied by COC records identifying their contents The original record will accompany the shipment The other copies will be distributed appropriately
- If sent by common carrier a bill of lading will be used Freight bills and bills of lading will be retained as part of the permanent documentation

4 3 2.2 Laboratory Custody Procedures

A designated sample custodian at the laboratory will accept custody of the shipped samples from the carrier and enter preliminary information about the package into a package or sample receipt log including the initials of the person delivering the package and the status of the custody seals on the coolers (i e broken versus unbroken) The custodian responsible for sample log-in will follow the laboratory s SOP for opening the package checking the contents and verifying that the information on the COC agrees with samples received The commercial laboratory will follow its internal COC procedures as stated in the laboratory QA Manual

4 4 ANALYTICAL REQUIREMENTS

4 4 1 Analytical Laboratory Services/Methods

A summary of specific samples to be collected sample numbering analyses and rationale is provided in Table 4 1 A summary of sampling requirements sample container size and type sample preservation and holding times and special handling requirements is presented in Table 4-2 A summary of the number of field and QA/QC samples to be submitted and method requirements is summarized in Table 4 3

All soil and sediment samples collected will be submitted to a CLP lab to be arranged by EPA OASQA client services to be analyzed for TAL metals (CLP ILM 04 1) and PCBs (CLP OLM 04 2) Waste pile samples will be submitted to a subcontracted lab and analyzed for TAL metals PCBs and hexavalent chromium

EPA and/or CLP laboratory analyses will be completed in 14 days EPA OASQA office or ESAT or E & E chemists will complete data validation within a 28 day turnaround period Hard copy results from the EPA and/or CLP laboratories will be delivered to the EPA upon completion of each sample delivery group Electronic results from the EPA and/or CLP laboratories will be delivered to the EPA upon project completion if provided to START in the deliverable package START and EPA-subcontracted laboratory analyses will be completed in a 14 day turnaround for full deliverable package with validation by ESAT or OASQA Hard copy and electronic data results from the subcontracted commercial laboratory will be delivered to the EPA upon completion of each sample delivery group

In the cases where laboratory results exceed QC acceptance criteria re-extraction and/or re analysis will occur as indicated in the applicable analytical method The respective laboratory analysts will be responsible for ensuring that appropriate sample analysis procedures are followed and will take appropriate actions to ensure correction of any deficiencies

4.5 QUALITY CONTROL REQUIREMENTS

QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of glassware and reagents Field QC will include duplicates trip blanks and field blanks Field QC samples will be preserved documented and transported in the same manner as the samples they represent Laboratory based QC samples will consist of standards replicates spikes and blanks A description of QC samples is provided in E & E s *Quality Assurance Project Plan (QAPP) for US EPA Region 3 Superfund Technical Assessment Response Team (START)* (Reference 24) The number and type of QC samples for this SI is provided in Table 4-3

4 6 INSTRUMENT/EQUIPMENT TESTING, INSPECTION, AND MAINTENANCE REQUIREMENTS

The field equipment used during this project includes the GPS unit The GPS unit requires no testing Maintenance of these instruments will be performed in accordance with the manufacturers recommendations

All field instruments and equipment used for analysis will be serviced and maintained only by qualified personnel All repairs adjustments and calibrations will be documented in an appropriate logbook or data sheet that will be kept on file The instrument maintenance logbooks will clearly document the date the description of the problems the corrective action taken the result and who performed the work.

4 7 INSTRUMENT CALIBRATION AND FREQUENCY

All instruments and equipment used during fixed laboratory sample analyses will be operated calibrated and maintained according to the manufacturer s guidelines and recommendations as well as criteria set forth in the applicable analytical methodology references and/or in accordance with the laboratory s Quality Assurance Manual and SOPs For the field instrumentation (GPS unit) the calibration will be performed in accordance with the manufacturer s recommendations and the SOPs listed in Section 4 2 4

4 8 INSPECTION/ACCEPTANCE REQUIREMENTS FOR SUPPLIES AND CONSUMABLES

This information is covered by the SOPs the START QAPP and the QMP Standards contained in these documents will be used to ensure the validity of data generated by E & E for this project Sample jars are pre cleaned by the manufacturer certification documenting this is enclosed with each box of jars

4 9 DATA ACQUISITION REQUIREMENTS (NON DIRECT MEASUREMENTS)

For START activities data acquired from non-direct measurement sources include the following

Physical information such as descriptions of the sampling activities and geologic logs

State and local environmental agency files

Reference computer data bases and literature files and

Historical reports on a site and subjective information gathered through interviews

Data from all non-direct measurement sources are reviewed for accuracy

4 10 DATA MANAGEMENT

This document is meant to be used in conjunction with information presented in E & E s QMP and QAPP for Region 3 START Copies of the START QAPP and QMP are available in E & E s Wheeling office Standards contained in these documents will be used to ensure the validity of data generated by E & E for this project Data validation will be performed as described in Section 6 Data tracking storage and retrieval are tracked by the PM and project chemist Access to data files is restricted to key START personnel

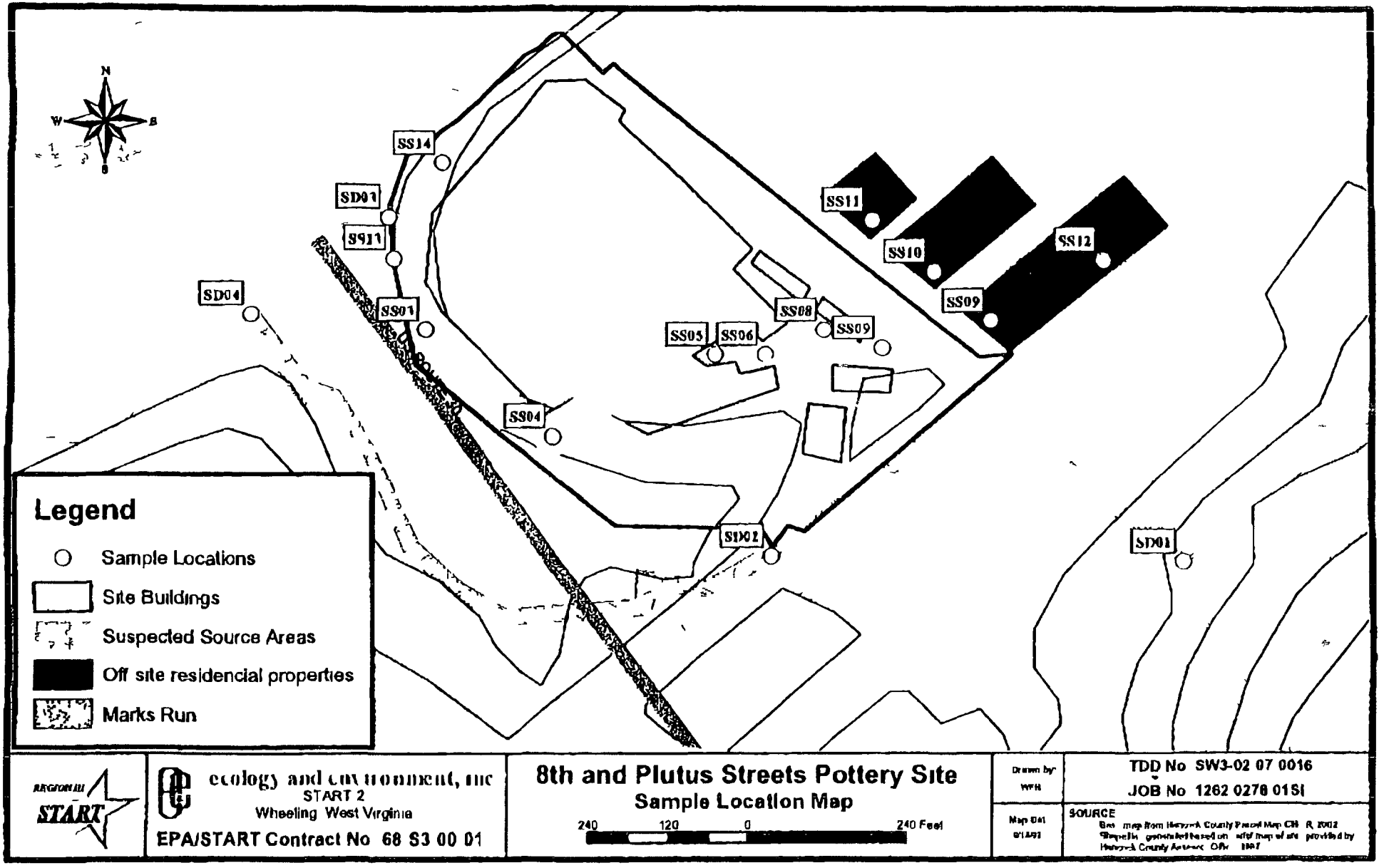


Table 4 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
8th AND PLUTUS STREETS POTTERY SITE SI
CHESTER, HANCOCK COUNTY, WEST VIRGINIA

EPA Regional Tracking Number	Proposed Field Number	Matrix	Sample Depth (BGS)	TAL Metals ILM 04 1	PCB Analysis OLM 04.2	Hexavalent Chromium	Description/Rationale
TBD	SS01	Soil	0 to 6	X	X	X	Background soil sample location will be field determined This sample will help determine the background concentrations.
TBD	SS02	Soil	0 to 6	X	X	X	Background soil sample location will be field determined This sample will help determine the background concentrations
TBD	SS03	Soil	0 to 6	X		X	Source ceramic waste sample collected from the western end of the ceramic waste debris pile This sample will serve to characterize the surface soils of the site
TBD	SS04	Soil	0 to 6	X		X	Source ceramic waste sample collected from the eastern end of the ceramic waste debris pile This sample will serve to characterize the surface soils of the site
TBD	SS05	Soil	0 to 6	X	X		Source soil sample collected from soils in direct proximity of the tranformers located near the middle of the site This sample will serve to characterize the surface soils of the site
TBD	SS06	Soil	0 to 6	X	X		Source soil sample collected from soils in direct proximity of the tranformers located near the middle of the site This sample will serve to characterize the surface soils of the site
TBD	SS07	Soil	0 to 6	X	X		Duplicate of sample SS06 This sample will serve as a soil matrix duplicate sample to determine the overall precision of the field sampling and analytical methods

Table 4 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
8th AND PLUTUS STREETS POTTERY SITE SI
CHESTER, HANCOCK COUNTY, WEST VIRGINIA

EPA Regional Tracking Number	Proposed Field Number	Matrix	Sample Depth (BGS)	TAL M tals ILM 04 1	PCB A lysis OLM 04 2	H nexavalent Chromi m	Description/Rationale
TBD	SS08	Soil	0 to 6	X	X	X	Target soil sample collected from within direct proximity of the residence located on site This sample will help determine if hazardous substances have migrated from the source area to the on site residence
TBD	SS09	Soil	0 to 6	X	X	X	Target soil sample collected from within direct proximity of the residence located on site This sample will help determine if hazardous substances have migrated from the source area to the on site residence
TBD	SS10	Soil	0 to 6	X	X	X	Target soil sample collected from within direct proximity of the residences located across the street from the site This sample will help determine if hazardous substances have migrated from the site to the off site residence
TBD	SS11	Soil	0 to 6	X	X	X	Target soil sample collected from within direct proximity of the residences located across the street from the site This sample will help determine if hazardous substances have migrated from the site to the off site residence
TBD	SS12	Soil	0 to 6	X	X	X	Target soil sample collected from within direct proximity of the residences located across the street from the site This sample will help determine if hazardous substances have migrated from the site to the off site residence

Table 4 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
8th AND PLUTUS STREETS POTTERY SITE SI
CHESTER, HANCOCK COUNTY, WEST VIRGINIA

EPA Regional Tracking Number	Proposed Field Number	Matrix	Sample Depth (BGS)	TAL Metals ILM 04 1	PCB Analysis OLM 04 2	Hexavalent Chromium	Description/Rationale
TBD	SS13	Soil	0 to 6	X	X	X	Overland flow soil sample collected from the western area of the ditch below the ceramic waste debris pile Sample will define the overland flow path from the site to the Ohio River
TBD	SS14	Soil	0 to 6	X	X	X	Overland flow soil sample collected from the eastern area of the ditch below the ceramic waste debris pile Sample will define the overland flow path from the site to the Ohio River
TBD	SD00	Sediment	0 to 6	X	X	X	Background sediment sample collected upstream of PPE in the Ohio River This sample will help determine the background concentrations of analytes
TBD	SD01	Sediment	0 to 6	X	X	X	Background sediment sample collected upstream of Probable Point of Entry (PPE) in Marks Run This sample will help determine the background concentrations of analytes
TBD	SD02	Sediment	0 to 6	X	X	X	Target sediment sample collected from Marks Run (PPE 1) This sample will help determine if hazardous substances from the site have migrated to Marks Run

Table 4 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
8th AND PLUTUS STREETS POTTERY SITE SI
CHESTER, HANCOCK COUNTY, WEST VIRGINIA

EPA Regional Tracking Number	Proposed Field Number	Matrix	Sample Depth (BGS)	TAL Metals ILM 04 1	PCB Analysis OLM 04 2	Hexavalent Chromium	Description/Rationale
TBD	SD03	Sediment	0 to 6	X	X	X	Duplicate of sample SD02 This sample will serve as a sediment matrix duplicate sample to determine the overall precision of the field sampling and analytical methods
TBD	SD04	Sediment	0 to 6	X	X	X	Target sediment sample collected from the end of the ditch (PPE 2) below the ceramic waste debris pile This sample will help determine if hazardous substances from the site have migrated to the Ohio River
TBD	SD05	Sediment	0 to 6	X	X	X	Target sediment sample collected at the confluence of Marks Run with the Ohio River This sample will help determine if hazardous substances from the site have migrated to the Ohio River

Key

BGS = Below Ground Surface
EPA = United States Environmental Protection Agency
SD = Sediment Sample
PCB = Polychlorinated Biphenyls
PPE = Probable Point of Entry
SI = Site Inspection
SS = Soil Sample
TAL = Target Analyte List
TBD = To Be Determined

Table 4 2
SAMPLE ANALYTICAL SUMMARY
8TH AND PLUTUS STREETS POTTERY SITE
CHESTER, HANCOCK COUNTY, WEST VIRGINIA

Analytical Method/ Parameter	Sample Matrix	Type	Container Size	Sample Preservation	Holding Time
CLP SOW ILM 04 1/ SW 846 6010/7471/TAL Metals	soil/sediment/waste	grab	Glass (8oz wide mouth)	4 C	6 months
CLP SOW OLM 04 2/SW 846 8082/PCBs	soil/sediment/waste	grab	Amber glass (4 oz wide mouth with teflon lined lid)	4 C	10 days
Hexavalent Chromium	soil/sediment/waste	grab	Glass (4oz wide mouth)	4 C	30 days

Table 4 3
FIELD AND QA/QC SAMPLING SUMMARY
8TH AND LUTUS STREETS LOTTERY SITE
CHESTER, HANCOCK COUNTY, WEST VIRGINIA

Parameter (Method)	Matrix	Detection Limits	Field Samples	Bkgd	QA/QC Sample Summary					Total Field and QA/QC Analyses (excluding MS/MSD)
					Dup	Trip Blanks	Rinsate Blanks	PCB MS/MSD	Inorganic MS/Dup	
TAL Metals (CLP SOW ILM 04 1/ SW 846-6010/7471)	Soil/ sediment	CRDL/ MDL	14	4	2	0	0		2	20
PCBs (CLP SOW OLM 04 2/SW 846 8082)	Soil/ sediment	CRDL/ CRQL	12	4	2	0	0	2		18
Hexavalent Chromium	Soil/ Sediment	MDL	11	4	2	0	0	2		17

5 ASSESSMENT/OVERSIGHT

5 1 ASSESSMENTS AND RESPONSE ACTIONS

E & E s overall assessment activities include management assessments development of SOPs and performance evaluations Management assessments include weekly meetings and conference calls to evaluate project readiness and staff utilization and regional manager office visits Assignment of qualified personnel to START projects maintenance of schedules and budgets, and quality of project deliverables are verified as part of these assessments The development of SOPs and performance evaluations are used to provide trained and qualified staff for the project

E & E s technical assessment activities applicable to START projects include peer review data quality reviews and technical system audits (i e laboratory and field) Procedures for assessment and audit of data quality are described in Section 4 of the QAPP (Reference 24) Procedures for peer review and technical assessments are summarized briefly below

Both the overall and direct technical assessment activities may result in the need for corrective action E & E s approach to implementing a corrective action response program for both field and laboratory situations are summarized briefly below

5 1 1 Peer Review

E & E implements peer review for all project deliverables including work plans QAPPs draft and final reports and technical memoranda The peer review process provides for a critical evaluation of the deliverable by an individual or team to determine whether the deliverable will meet the established criteria DQOs technical standards and contractual obligations The PM will assign peer reviewers depending on the nature and complexity of the project when the publications schedule is established The publications staff will be responsible for ensuring all peer reviewers participate in the review process and approve all final deliverables For technical memoranda and other project documents the PM will be responsible for obtaining principal review and approval

The QC Manager will provide review of all project documents to verify that they were generated in accordance with START and overall EPA contract requirements

5 1.2 Technical Systems Assessments

The entire project team is responsible for ongoing assessment of the technical work performed by the team, identification of situations of nonconformance with the project objectives and initiation implementation and documentation of corrective actions Independent performance and systems audits

are technical assessments that also are an integral part of the overall QA/QC program for START activities The following describes the types of audits conducted the frequency of these audits and the personnel responsible for conducting the audits

5 1 2 1 Field Audits

Field audits may be performed under the direction of the QA/QC Officer The field audit is conducted using the checklists provided in the START Region 3 QAPP

5 1 2 2 Field Inspections

The Project Manager will be responsible for insuring that all field activities are conducted in compliance with the project plans

5 1 2 3 Laboratory Audits

The laboratory must implement a comprehensive program of internal audits to verify the compliance of their systems with the SOPs and QA Manuals All laboratory procurement will be coordinated through the EPA s OASQA/CST and only EPA approved laboratories will be used

5 1.3 Corrective Action

Corrective actions will be implemented when necessary as described in the START Region 3 QAPP In conjunction with the QA/QC Officer and Project Chemist the PM is responsible for initiating corrective action and implementing it in the field and office and the laboratory project manager is responsible for implementing it in the laboratory It is their combined responsibility to see that all sampling and analytical procedures are followed as specified and that the data generated meet the prescribed acceptance criteria Specific corrective actions necessary will be clearly documented in the logbooks or analytical reports

5 1.3 1 Field Situations

The need for corrective action in the field may be determined by technical assessments or by more direct means such as equipment malfunction Once a problem has been identified it may be addressed immediately or an audit report may serve as notification to project management staff that corrective action is necessary Immediate corrective actions taken in the field will be documented in the project logbook Corrective actions may include but are not limited to

- Correcting equipment decontamination or sample handling procedures if field blanks indicated contamination

  Recalibrating field instruments as necessary

- Training field laboratory personnel in correct sample handling or collection procedures and

  Accepting data with an acknowledged level of uncertainty

After a corrective action has been implemented its effectiveness will be verified If the action does not resolve the problem appropriate personnel will be assigned to investigate and effectively remediate the problem Corrective actions recommended by EPA will be addressed in a timely manner

5 1 3 2 Laboratory Situations

Out-of-control QC data laboratory audits or outside data review may determine the need for corrective action in the laboratory Corrective actions may include but are not limited to

- Reanalyzing samples if holding times permit

  Correcting laboratory procedures

  Recalibrating instruments using freshly prepared standards

- Replacing solvents or other reagents that give unacceptable blank values

  Training additional laboratory personnel in correct sample preparation and analysis procedures and

- Accepting data with an acknowledged level of uncertainty

Specific laboratory corrective actions for analytical deficiencies must be consistent with the current EPA requirements The Laboratory corrective actions must be defined in analytical SOPs approved by the EPA Any deviations from the EPA approved corrective actions must be documented and approved by the Project Chemist or EPA technical staff

Whenever corrective action is deemed necessary by the Project Chemist or EPA technical staff the laboratory project manager will ensure that the following steps are taken

- The cause of the problem is investigated and determined

  Appropriate corrective action is determined

  Corrective action is implemented and its effectiveness verified by the laboratory QA officer and

  Documentation of the corrective action verification is provided to the Project Chemist and EPA in a timely manner

5 2 REPORTS TO MANAGEMENT

The START PM will provide debriefings as necessary to keep the EPA SAM apprized of changes in project status Laboratory deliverables will be as specified in the CLP Organic and Inorganic Statements of Work (OLM04 2 and ILM04 1 respectively) for CLP and/or as specified in the laboratory subcontract bid specification package for commercial laboratory analyses Once the project is completed and the resulting data is obtained the START PM will prepare a final project report The report will include a summary of the activities performed during the project and the QA memoranda with attached validated data report forms

The START reporting requirements and corrective action program are addressed in Section 3 2 of the START Region 3 QAPP Corrective actions will be conducted in accordance with these QAPP specifications

6 DATA VALIDATION AND USABILITY

6 1 DATA REVIEW, VALIDATION, AND VERIFICATION REQUIREMENTS

For START activities E & E will implement the general procedures for data validation and usability described below when validation is not completed by OASQA or ESAT These procedures will be adapted if necessary to meet project specific requirements All data generated will be reviewed by comparing calibration accuracy and precision to the QC criteria listed in the method the laboratory SOP and in the master or site specific QAPP The following types of data will be reviewed

Analytical laboratory summary reports including QC summary data for surrogates method blanks laboratory control samples (LCS) and matrix spike/matrix spike duplicate (MS/MSD) samples Acceptance and performance criteria will be developed from the current laboratory control limits and the limits listed in the START Region 3 QAPP

Calibration summary data will be checked to verify that all positive results for target compounds were generated under an acceptable calibration as defined by the analytical method

Field QC results for duplicates and blanks will be compared to criteria listed in Section 2 5 1 of the START Region 3 QAPP

Field data such as sample identifications and sample dates will be checked against the laboratory report and

Any field analytical data to be included in the final report will be checked for completeness and compliance with the QAPP

Raw data files from the field and laboratory will not be reviewed unless there is a significant problem noted with the summary information

6 2 VALIDATION AND VERIFICATION METHODS

The data review scheme for analytical results from the receipt of the analytical data through the validated report is described below The laboratory is responsible for performing internal data review

consistent with EPA requirements The laboratory data review must include 100 percent analyst review 100 percent peer review and 100 percent review by the laboratory project manager to verify that all project specific requirements are met The laboratory QA officer must perform review on 10 percent of the data packages All levels of laboratory review must be fully documented and available for review if requested or if a laboratory audit is performed

After receipt from the laboratory project data will be validated using the procedures summarized in the following subsections

6 2 1 Evaluation of Completeness

The Project Chemist verifies that the laboratory information matches the field information and that the following items are included in the data package

- Chain of-custody forms
- Case narrative describing any out of-control events and summarizing analytical procedures
- Data report forms (i e Form I)
- QA/QC summary forms
- Calibration summary forms and
- Chromatograms documenting any QC

If the data package is incomplete the Project Chemist contacts the laboratory which must provide all missing information as soon as possible not to exceed three days

6 2 2 Evaluation of Compliance

The actual data validation procedures are briefly outlined below

- Review the data to check field and laboratory QC data to verify that holding times and acceptance and performance criteria were met and to note any anomalous values

- Review chromatograms mass spectra and other raw data if provided as backup information for any apparent QC anomalies

Ensure all analytical problems and corrections are reported in the case narrative and that appropriate laboratory qualifiers are added

- For any problems identified review concerns with the laboratory obtain additional information if necessary and check all related data to determine the extent of the error and

  Apply data qualifiers to the analytical results to indicate potential limitations on data usability

Project chemists will follow qualification guidelines in EPA CLP National Functional Guidelines for Organic Data Review EPA 540/R 99-008 October 1999 or EPA CLP National Functional Guidelines for Inorganic Data Review EPA 540/R 94/013 February 1994

6 2 3 Data Validation Reporting

The Project Chemist will perform the following reporting functions

Alert the Project Manager to any QC problems obvious anomalous values or discrepancies between the field and laboratory data and resolve any issues

Discuss QC problems in a data validation memo for each laboratory report The data validation memo and copy of the data package will be sent to EPA technical staff

At the completion of all field and laboratory efforts for site the Project Chemist will prepare a QC report The QC report will summarize planned versus actual field and laboratory activities and data usability concerns and

The PM and Project Leader provide final QA/QC during the technical review of the QC report

6 2 4 Field Data Review

Field data are generated from in-field measurement which may include a geophysical survey well development, groundwater sampling and surface water sampling The quality objective for the in-field measurement activities is to obtain accurate measurements of sample characteristics including pH conductivity temperature turbidity dissolved oxygen and/or redox potenual using appropriate equipment Data are generally recorded in field logbooks Field logbooks are reviewed as part of the QC inspections and audits using the checklist included in Attachment B

Field data are typically provided in the site files along with the final report The data are reviewed as part of the QC procedures for report generation

Field and laboratory data are generally assessed against specific criteria determined to be applicable for the project All criteria must be evaluated prior to the assessment to verify the current values and applicability of the guidance

6 3 Reconciliation with Data Quality Objectives

For routine assessments of data quality E & E will implement the data validation procedures described in Section 6 2 and assign appropriate data qualifiers to indicate limitations on the data The Project Chemist will be responsible for evaluating precision accuracy representativeness comparability and completeness of the data using procedures described in Section 2 5 of the START Region 3 QAPP Any deviations from the analytical DQOs for the project will be documented in the data validation memo provided to the data users for the project

The Project Chemist will work with the final users of the data in performing data quality assessments The data quality assessment may include some or all the following steps

Data that are determined to be incomplete or not usable for the project will be discussed with the project team If critical data points that affect the ability of the team to complete the project objectives the data users will report immediately to the PM The PM will discuss the resolution of the issue with EPA technical staff and implement the necessary corrective actions (for example re sampling)

Data that are nondetect but have elevated reporting limits because of blank contamination or matrix interference will be compared to action levels established by EPA If reporting limits exceed the action levels then the results will be handled as incomplete data as described above and

Data that are qualified as estimated may be used for project decision making The usability of qualified data will be evaluated in accordance with OSWER 9285 7 14FS The data user must evaluate the potential uncertainty in developing recommendations for the site If estimated results become critical data points in making final decisions on the site the PM and EPA technical staff will evaluate the use of the results

The assessment process involves comparing analytical results to screening values and background concentrations to determine whether the contamination present is site related and if it qualifies as an observed release

7 0 REFERENCES

1 Ellyson Walter J et al November 1974 *Soil Survey Brooke Hancock, and Ohio Counties West Virginia* United States Department of Agriculture (USDA) Soil Conservation Service Natural Resources Conservation Service Wheeling WV

2 Leaman Pottery Page *The Pottery Process* URL http://www.leamanpottery.com/pottery_process.html 5 August 2002

3 United States Environmental Protection Agency January 1999 *Rock Spring Lead Site Polrep #1* EPA Philadelphia PA

4 West Virginia Department of Environmental Protection (WVDEP) June 8 2001 *Trip Report for Former Taylor Smith and Taylor Pottery* Office of Waste Management Fairmont Office District Fairmont WV

5 Price Paul H 30 June 1955 *Part III Ground Water Resources of the Ohio River Valley in West Virginia* West Virginia Geological Survey Morgantown WV

6 Nelson P 2002 Record of Communication Plant Operator Chester City Water Authority W Huggins E & E Wheeling West Virginia July 31 2002

7 Swetering J F 1981 *Brief Description of Ground Water Conditions and Aquifers in West Virginia* West Virginia Geological and Economic Survey Morgantown WV

8 The Mitre Corporation 1988 Draft Revised HRS Net Precipitation Values McLean Virginia May 1988

9 Hershfield D M 1961 *Rainfall Frequency Atlas of the United States for Durations from 30 minutes to 24 hours and Return Periods from 1 to 100 years* Technical Paper No 40 U S Department of Commerce Washington D C

10 Newell D 2002 Shapefile depicting water supply intake locations in West Virginia West Virginia Bureau of Public Health Charleston WV

11 Frost Associates 2002 Centracts Report on 1990 Census Population and Water Supply Data Clinton Connecticut June 5 2002

12 United States Geological Society Surface Water Data for USA Calendar Year Streamflow Statistics USGS 03086000 Ohio River at Sewickley PA August 7 2002 URL http //waterdata usgs gov/mwis/annual/calender_year/?site_no=03086000

13 Pennsylvania Department of Conservation and Natural Resources The Resource Volume 1 No 6

Pittsburgh s Mythical Fourth River at Point State Park

URL http //www dcnr state pa us/polycomm/feb/re2 21 htm Feburary 21 1997

14 United States Geological Survey (USGS) 1960 7 5 minute series topographic maps of West Virginia East Liverpool North Quadrangle 1960 photorevised 1984 East Liverpool South Quadrangle 1960 photorevised 1985 Wellsville Quadrangle 1960 photorevised 1992 Weirton Quadrangle 1968 photorevised 1990

15 United States Geological Society *1990 Water Use for 05030101 Upper Ohio* August 7 2002 URL http //water usgs gov/cgi bin/wuhuc?huc=05030101

16 Buchannon T McClish R 2002 Record of Communication Representative of Source Water Assessment and Protection Program Ohio EPA W Huggins E & E Wheeling West Virginia July 31 through August 12 2002

17 West Virginia Division of Natural Resources Favorite Fishing Waters Webpage URL http //www dnr state wv us/wvfishing/waters htm August 13 2002

18 West Virginia Department of Natural Resources September 15th 1998 New Cumberland locks and Dam Fish Data Report Parkersburg WV

19 West Virginia Department of Health and Human Resources *Current Fish Consumption Advisories in West Virginia URL* http //www wvdhhr org/fish/Advis_tbl htm July 8 2002

20 Sargent B Letter West Virginia Department of Natural Resources Wildlife Resources Section Letter of correspondence to H Pula E & E June 11 2002

21 United States Department of Interior National Wetlands Inventory Maps of Ohio Pennsylvania and West Virginia East Liverpool North Quadrangle 1990 East Liverpool South Quadrangle 1990 Weirton Quadrangle 1990 Wellsville Quadrangle 1990 Midland Quadrangle 1990 Hookstown Quadrangle 1990

22 Federal Emergency Management Agency Flood Insurance Rate Map December 1 1982 City of Chester Hancock County West Virginia

23 West Virginia Department of Education *West Virginia School Directory On line URL http //wvde state wv us/ed_directory/index.html?county_id=29&school_id=338 http //wvde state wv us/ed_directory/index html?county_id=29&school_id=346* August 8 2002

24 Ecology and Environment Inc (E & E) 2000 Quality Assurance Project Plan (QAPP) for US EPA Region 3 Superfund Technical Assessment and Response Team (START) U S Environmental Protection Agency Contract No 68 S3 00-01

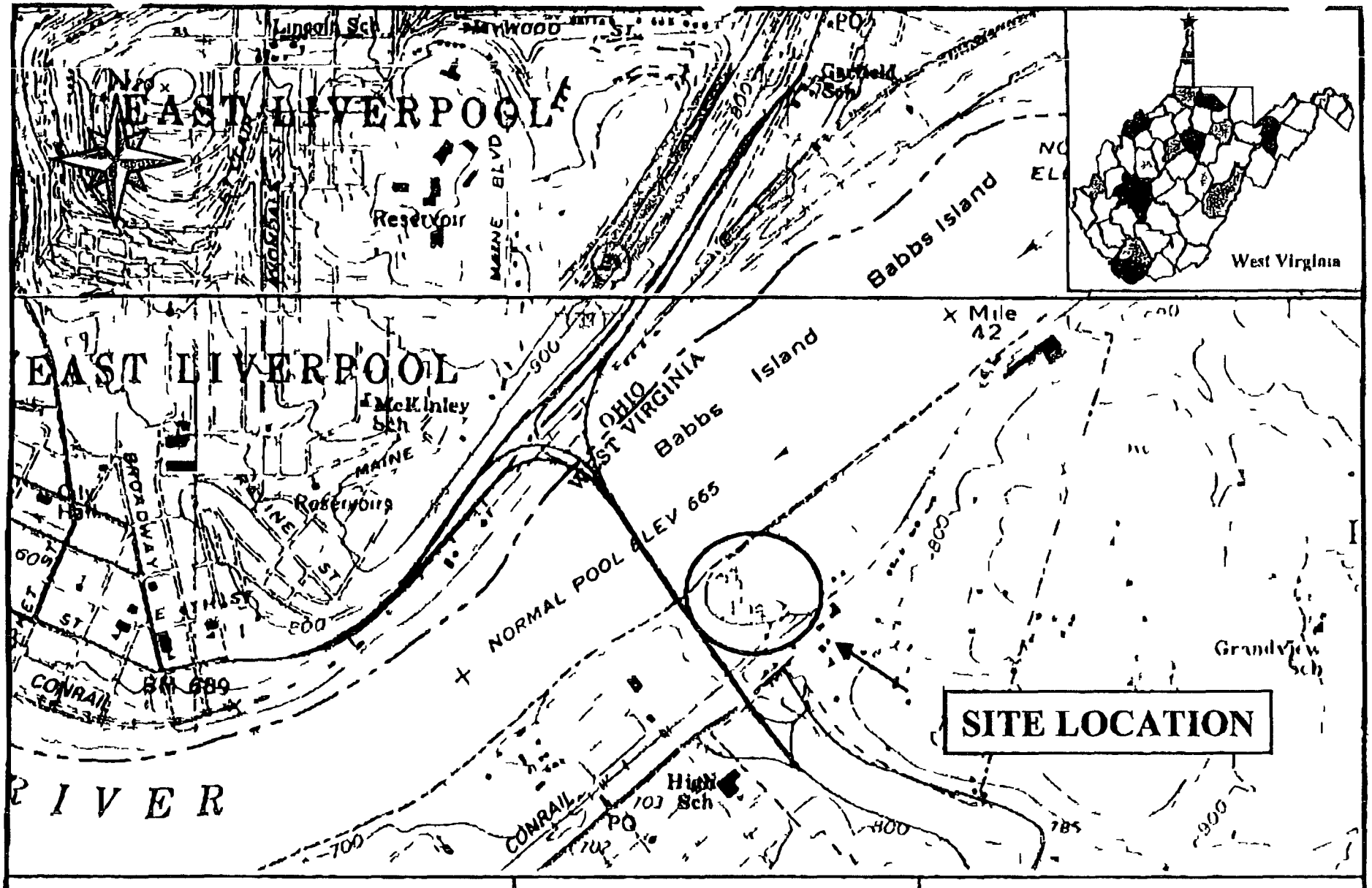
25 United States Environmental Protection Agency Region III September 2000 Sample Submission Guidelines Sixth Edition

26 United States Environmental Protection Agency January 1991 User s Guide to the Contract Laboratory Program 9240 0 1D

2. SITE BACKGROUND

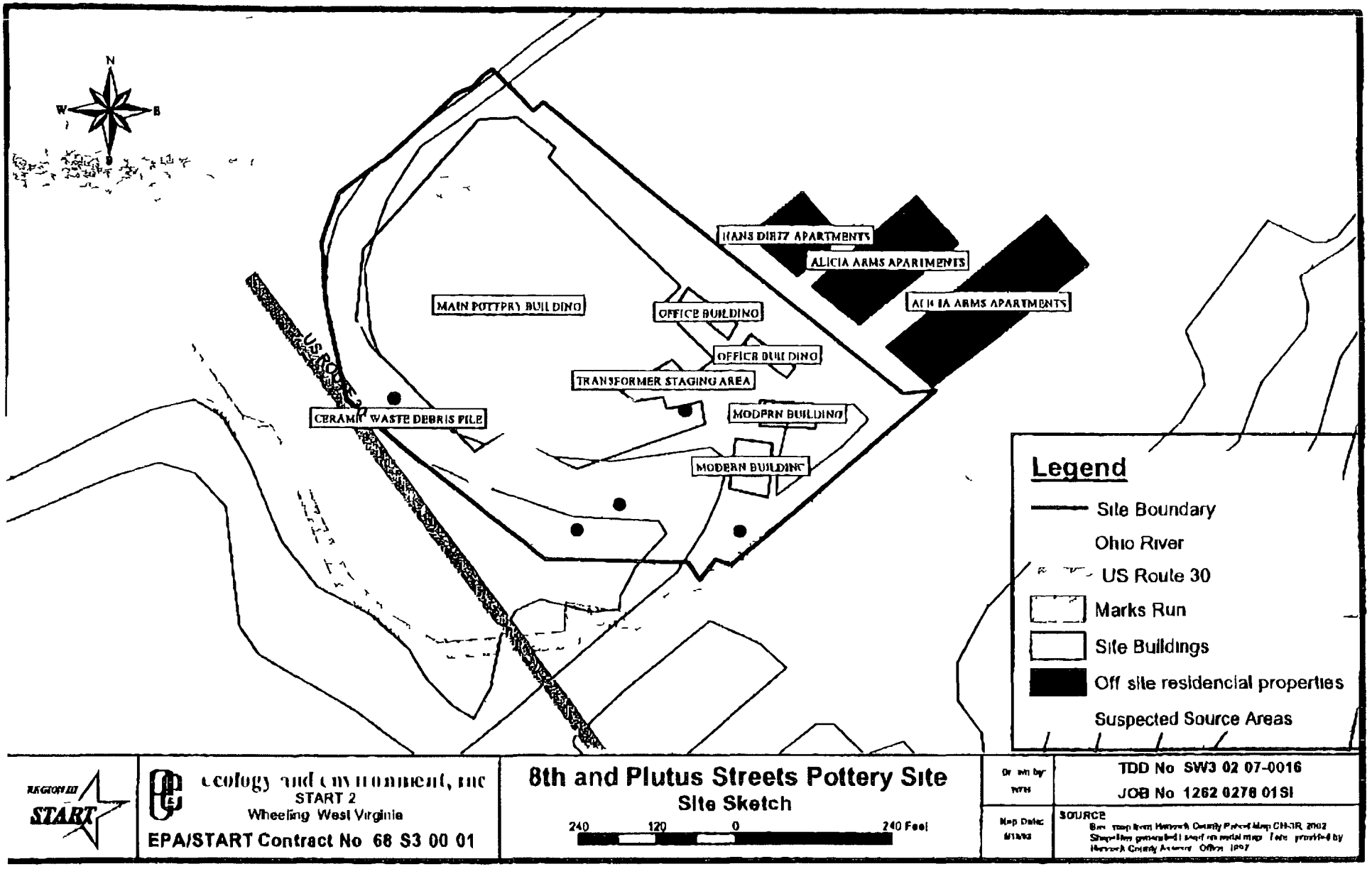
2 1 SITE LOCATION

Site Name	8th and Plutus Streets Pottery
CERCLIS No	WVN000305784
Location	8th and Phoenix Avenue Chester Hancock County WV
Latitude	N 40° 37 3 76
Longitude	W 80° 33 30 73
Legal Description	Chester Corporation District Map CH3R parcel 43 9 52 AC
Congressional District	1
Site Owner(s)	Rock Spring Enterprises Inc P O Box 95 Chester Hancock WV 26034 330 386 3813 Hans Dietz Apartments LP 205 California Avenue Chester Hancock County WV 26034
Site Operator(s)	Anchor Hocking Corporation 109 North Broad Street Lancaster Ohio 43130 614-687 2081 Taylor Smith and Taylor Co P O Box 197 Chester WV 26034 304 387 2626
Site Contacts	Alicia Arms Apartments LP 850 Plutus Avenue Chester Hancock County WV 26034 304-387-0701 Hans Dietz Apartments LP 205 California Avenue Chester Hancock County WV 26034



ecology and environment inc International Specialists in the Environment Wheeling West Virginia	8th and Plutus Streets Pottery Site Chester, Hancock County West Virginia	Figure 2-1 SITE LOCATION MAP		
Source: USGS 7 5 Minute Topographic Quadrangle East Liverpool South, 1960 photorevised 1985	1500 0 1500 Approximate Scale in Feet	Date 5 16 02	Map by WFH	TDD No SW3 02 07-0016

AR100081



REGION III START

ecology and environment, inc
START 2
Wheeling West Virginia
EPA/START Contract No 68 S3 00 01

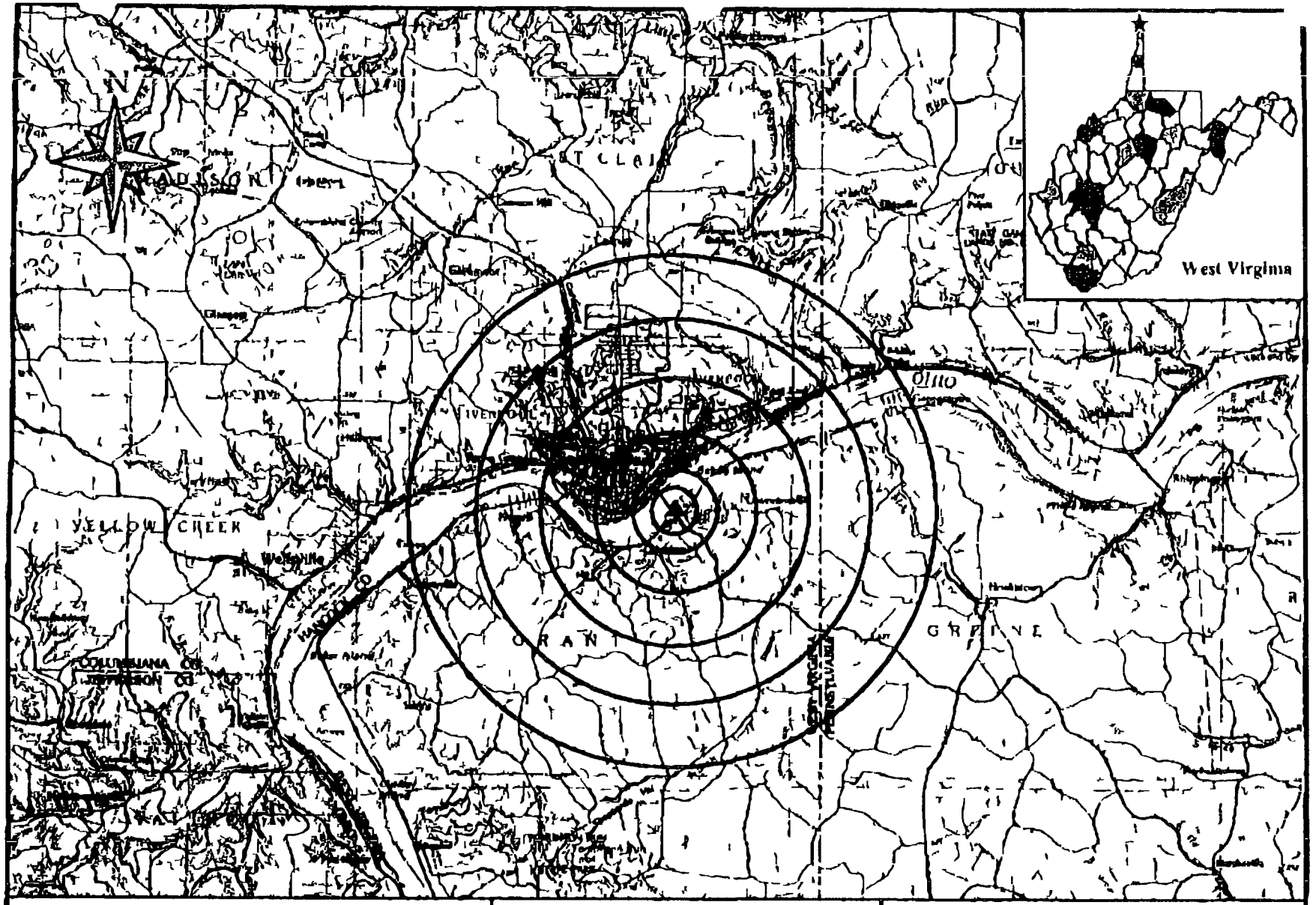
8th and Plutus Streets Pottery Site
Site Sketch

240 120 0 240 Feet

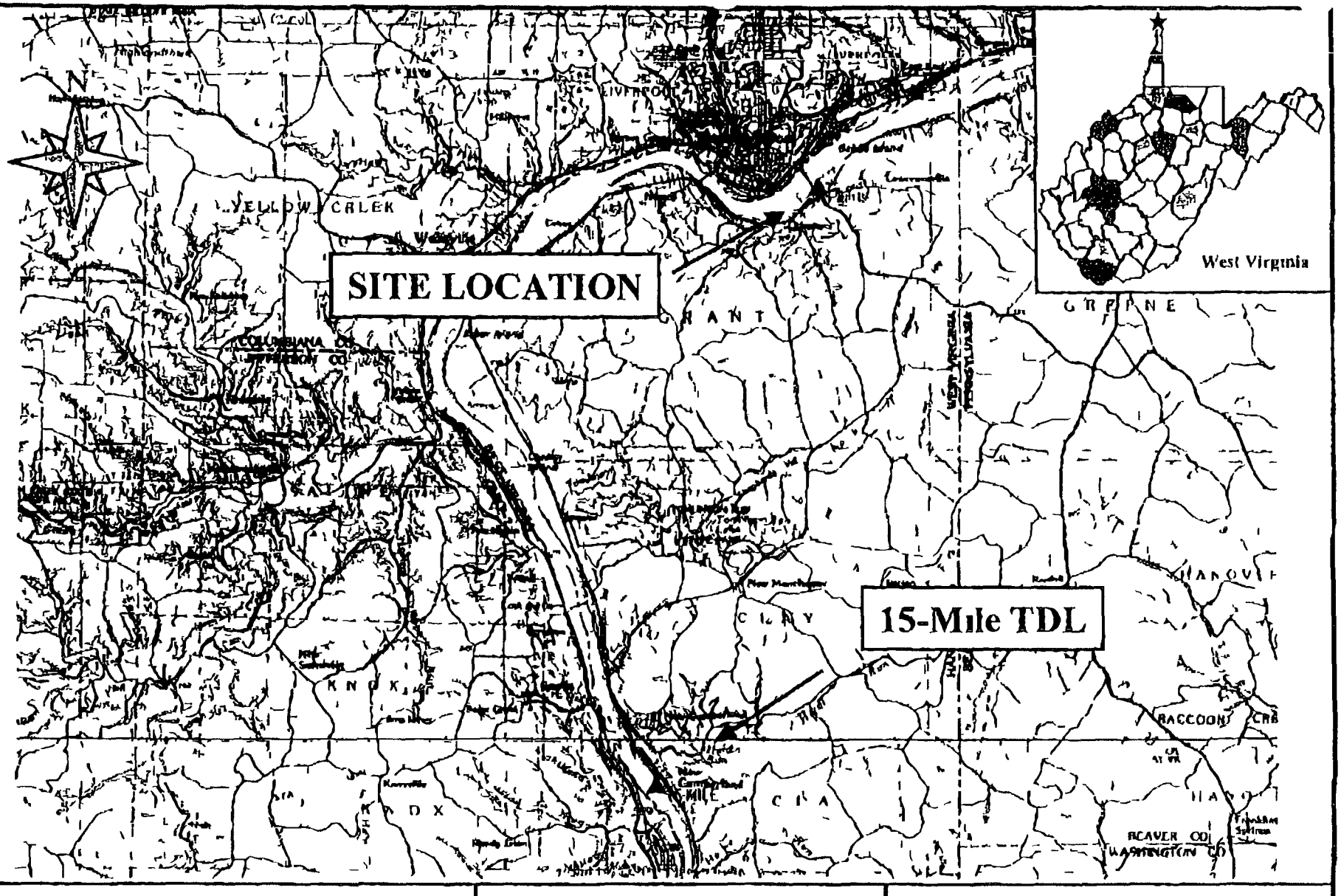
Drawn by: [illegible]
Map Date: 6/13/03

TDD No SW3 02 07-0016
JOB No 1262 0276 01 SI

SOURCE
Base map from Hancock County Parcel Map CH-3R, 2002
Shapefiles generated / used on aerial map. Data provided by Hancock County Assessor Office, 1997



ecology and environment inc International Specialists in the Environment Wheeling West Virginia	8th and Plutus Streets Pottery Site Chester, Hancock County West Virginia	Figure 2 3 4-MILE RADIUS MAP (¼, ½, 1, 2,3, 4 mile rings from inside out)		
Source: USGS 100K Topographic Quadrangle East Liverpool 1986 Pittsburgh West 1986	2 0 2 Approximate Scale in Miles	Date 8 13 02	Map by WFH	TDD No SW3 02 07 0016



ecology and environment inc International Specialists in the Environment Wheeling West Virginia	8th and Plutus Streets Pottery Site Chester, Hancock County West Virginia	Figure 2 4 15 MILE TDL MAP		
Source: USGS 100K Topographic Quadrangle East Liverpool 1986 Pittsburgh West 1986	1 0 1 Approximate Scale in Miles	Date 8 13 02	Map by WFH	TDD No SW3 02 07 0016

3 PROJECT MANAGEMENT

3 1 PROJECT/TASK ORGANIZATION

This section outlines the individuals directly involved with the 8th and Plutus Streets Pottery SI and their specific responsibilities

3 1 1 EPA Region 3 Site Assessment Manager (SAM)

EPA SAM for this project is James Hargett The EPA SAM is the overall coordinator of the project and decision maker The SAM reviews and approves the site specific SQAP and subsequent revisions in terms of project scope objectives and schedules The SAM ensures site-specific SQAP implementation The SAM is the primary point of contact for general project problem resolution and has approval authority for the project

3 1 2 EPA Region 3 Office of Analytical Services and Quality Assurance (OASQA) Client Services Team (CST)

The OASQA/CST coordinates sample analyses performed through the EPA Contract Laboratory Program (CLP) the EPA Region 3 OASQA Laboratory or subcontracted laboratory The OASQA/CST also provides regional sample identification numbers

3 1 3 E & E START Project Manager (PM)

The START PM for this project is William Huggins Jr The START PM provides overall coordination of field work and is responsible for preparation and implementation of the final approved version of the site specific SQAP The START PM records any deviations from the SQAP during implementation and serves as the primary contact point with the EPA SAM The START PM receives CLP and CLP/Region 3 laboratory information from the OASQA serves as primary START point of contact for technical problems and is responsible for the execution of decisions and courses of action deemed appropriate by the EPA SAM In the absence of the START PM a START Task Leader assigned by the PM will assume the PM s responsibilities

3 1 4 E & E START Project Leader/Quality Assurance (QA) Officer

The START Project Leader/QA Officer for this project is Gene Nance The Project Leader/QA Officer reviews and approves the site specific SQAP conducts in house audits of field operations and is responsible for auditing and reviewing the field activities and final deliverables and proposing corrective action if necessary for nonconformities

3 1.5 E & E START Project Chemist

The START Project Chemist for this project is Gene Nance The Project Chemist is responsible for data validation if not provided by OASQA or Environmental Services Assistance Team (ESAT) and verification and oversight of the hard copy and electronic analytical data The Project Chemist will ensure that QA objectives appropriate to the project are established and that laboratory and field personnel are aware of these objectives The Project Chemist will recommend implement and/or review actions taken in the event of quality assurance/quality control (QA/QC) failures in the laboratory or field and report non-conformance with either QC criteria or QA objectives to the Project Manager and Project Leader

3 1 6 E & E START Program Manager and EPA Project Officer

The E & E START Program Manager Drew Wojtanik and the EPA Project Officer Jackie Williams are responsible for coordinating resources requested by the SAM for this project and for the overall execution of the START program

3 2 PROJECT SCHEDULE

The following schedule for implementing the 8th and Plutus Streets Pottery Site SI is intended to be used as a guide Adjustments to the implementation dates and the estimated project duration may be necessary to account for variable unforeseen or unavoidable conditions that the field team may encounter Examples include inclement weather difficulties in accessing a sampling site or additional time needed to complete a task Significant schedule changes that arise in the field will be discussed with the SAM at the earliest opportunity The proposed schedule of project work is as follows

Activity	Start Date	End Date
Obtain Written Access (2 weeks before field event)	8/16/02	8/16/02
Mobilize to site	8/28/02	8/28/02
Sample Collection Activities	8/28/02	8/29/02
Demobilization from Site	8/29/02	8/29/02
Laboratory Receipt of Samples	8/30/02	8/30/02
Laboratory Analysis and Validation (4 weeks)	9/30/02	9/30/02
Submit Draft Report	10/30/02	10/30/02
Submit Final Report	11/07/02	11/07/02
Target Completion Date/Submit Site File and References	11/14/02	11/14/02

3.3 QUALITY OBJECTIVES AND CRITERIA FOR MEASUREMENT DATA

The project data quality objectives (DQOs) are to provide valid data of known and documented quality to characterize sources determine off site migration of contaminants determine whether the site is eligible for placement on the National Priorities List (NPL) and document threat(s) or potential threat(s) to public health or the environment posed by the site The DQO process applied to this project followed that described in the EPA document *Guidance for the Data Quality Objectives Process* EPA 600/R 96/005 (EPA 1996) and E & E s *Quality Assurance Project Plan (QAPP) for US EPA Region 3 Superfund Technical Assessment and Response Team (START)* (Reference 24)

3 4 SPECIAL TRAINING REQUIREMENTS/CERTIFICATION

No special training requirements or certifications are required for this project except for the 40-hour Hazardous Waste Operations (HAZWOPER) class and annual refreshers Health and safety procedures for E & E personnel are addressed in the E & E site-specific Health and Safety (HASP) Included in the plan are descriptions of anticipated chemical and physical hazards required levels of personal protective equipment health and safety monitoring requirements and action levels personal decontamination procedures and emergency procedures